Doc Code: AP.PRE.REQ

PRE-APPEAL BRIEF REQUEST FOR REVIEW

Docket Number (Optional)
9387-2

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to "Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450" [37 CFR 1.8(a)]	Application Number	Filed
	09/845,432	April 30, 2001
on ___August 17, 2007___	First Named Inventor	
Signature _Rosa Lee Brinson_	David Blaker	
	Art Unit	Examiner
Typed or printed name ___Rosa Lee Brinson___	2166	Mohammad Ali

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).
　　　Note: No more than five (5) pages may be provided.

I am the

☐ applicant/inventor.

☐ assignee of record of the entire interest.
See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed.
(Form PTO/SB/96)

☒ attorney or agent of record.　42,011
Registration number

☐ attorney or agent acting under 37 CFR 1.34.

Registration number if acting under 37 CFR 1.34 _____

_____
Signature

D. Scott Moore
_____
Typed or printed name

(919) 854-1400
_____
Telephone number

August 17, 2007
_____
Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.

☒ *Total of ___1___ forms are submitted.

RESPONSE UNDER 37 C.F.R. 1.116 EXPEDITED PROCEDURE
EXAMINING GROUP 2529
<u>PATENT</u>

Attorney's Docket No.: 9387-2

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re: Blaker et al.   Confirmation No.: 2529
Serial No.: 09/845,432   Group Art Unit: 2166
Filed: April 30, 2001   Examiner: Mohammad Ali
For: HASH-ORDERED DATABASES AND METHODS, SYSTEMS AND COMPUTER
          PROGRAM PRODUCTS FOR USE OF A HASH-ORDERED DATABASE

Date: August 17, 2007

Mail Stop AF
Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

REASONS IN SUPPORT OF APPELLANTS' PRE-APPEAL
BRIEF REQUEST FOR REVIEW

Sir:

This document is submitted in support of the Pre-Appeal Brief Request for Review

filed concurrently with a Notice of Appeal in compliance with 37 C.F.R. 41.31 and with the

rules set out in the OG of July 12, 2005 for the New Appeal Brief Conference Pilot Program,

which have been extended indefinitely.

No fee or extension of time is believed due for this request. However, if any fee or

extension of time for this request is required, Appellants request that this be considered a

petition therefor. The Commissioner is hereby authorized to charge any additional fee, which

may be required, or credit any refund, to our Deposit Account No. 50-0220. Appellants

hereby request a Pre-Appeal Brief Review (hereinafter "Request") of the claims finally

rejected in the Final Office Action mailed May 21, 2007 (hereinafter "Final Action"). The

Request is provided herewith in accordance with the rules set out in the OG dated July 12,

2005.

Appellants appreciate the indication that Claims 7 - 9 recite patentable subject matter.

Appellants respectfully submit, however, that the rejection of Claims 1 - 13, 37, and 40 as

nonstatutory is clearly erroneous and that the rejection of independent Claims 1, 37, and 40

based on U. S. Patent No. 5,511,190 to Sharma et al. (hereinafter "Sharma") is clearly

erroneous for at least the reasons discussed herein.

Therefore, Appellants respectfully request review of the present application by an

appeal conference prior to the filing of an appeal brief. In the interest of brevity and without

waiving the right to argue additional grounds should this Petition be denied, Appellants will

only discuss the recitations of independent Claims 1, 37, and 40 with respect to the rejection based on the Sharma reference.

Claims 1 - 13, 37 and 40 are Statutory

Claims 1 - 13, 37, and 40 stand rejected under 35 U.S.C. §101 as being directed to non-statutory subject matter. (Final Action, page 2). As discussed in the Manual Of Patent Examining Procedure (MPEP):

> The claimed invention as a whole must accomplish a practical application. That is, it must produce a "useful, concrete and tangible result." *State Street*, 149F.3d at 1373, 47 USPQ2d at 1601-02. The purpose of this requirement is to limit patent protection to inventions that possess a certain level of "real world" value, as opposed to subject matter that represents nothing more than an idea or concept, or is simply a starting point for future investigation or research....MPEP, Sec. 2106(II.)(A).

Independent Claim 1 is directed to a method of searching a database that recites, in part:

> generating a hash key value based on a plurality of selector values;
> selecting an entry in the database having an address corresponding to the hash key value, wherein entries in the database include corresponding hash values;
> evaluating the selected entry to determine if the entry in the database corresponds to the plurality of selector values;
> incrementing the address corresponding to the hash key value if the selected entry does not correspond to the plurality of selector values;
> wherein the selecting, the evaluating and the incrementing are repeated until the hash value included in selected entry has a value which indicates that entries subsequent to the selected entry will not correspond to the plurality of selector values.

Independent Claims 37 and 40 include similar recitations. According to independent Claim 1, both hash-based search operations and linear search operations may be combined to select a specific entry out of a database. As stated on page 3 and discussed throughout the remainder of the Specification, such techniques may be particularly useful for selecting entries from Internet Protocol Security (IPSec) Security Association Databases (SADs).

Appellants submit, therefore, that independent Claims 1, 37, and 40 provide the useful result of being able to select an entry from a database in a more efficient manner than if hash-based search techniques or linear search techniques were used alone.

The next relevant inquiry under 35 U.S.C. §101 is whether the claims fall into a statutory or non-statutory category. "As cast, 35 U.S.C. §101 defines four categories of inventions Congress deemed to be the appropriate subject matter of a patent; namely,

processes, machines, manufactures and compositions of matter." (MPEP, Sec. 2106(IV.)(A)). Appellants submit that independent Claim 1 falls under the "process" statutory category of 35 U.S.C. §101, independent Claim 37 falls under the "machine" statutory category of 35 U.S.C. §101, and independent Claim 40 falls under the "manufacture" category of 35 U.S.C. §101. With respect to independent Claim 40, this claim is a computer program product claim and recites a computer readable medium having computer readable program code/data structure embodied therein. Appellants respectfully submit that the Federal Circuit has held that computer program product claims, such as independent Claim 40, qualify as statutory subject matter (see, *e.g.*, *In re* Beauregard, 53 F.3d 1583 (Fed. Cir. 1995)).

The Final Action alleges that independent Claims 1, 37, and 40 are non-statutory because they are directed to an abstract idea rather than a practical application of an idea "because the claim does not require any physical transformation and the invention as claimed does not produce a useful, concrete, and tangible result." (Final Action, page 5). Independent Claims 37 and 40 do not require any physical transformation because they are system and computer program product claims, respectively, and, therefore, recite physical elements. Independent Claim 1 is a method claim. According to the MPEP:

> In practical terms, claims define nonstatutory processes if they:
> - consist solely of mathematical operations without some claimed practical application (i.e., executing a "mathematical algorithm"); or
> - simply manipulate abstract ideas, e.g., a bid (*Schrader*, 22 F.3d at 293-94, 30 USPQ2d at 1458-59) or a bubble hierarchy (*Warmerdam*, 33 F.3d at 1360, 31 USPQ2d at 1759), without some claimed practical application. (MPEP, Sec. 2106(IV.)(B)(1)).

That is, non-statutory method or process claims have no claimed practical application. As discussed above, independent Claim 1 has the practical application of selecting an entry from a database in a more efficient manner using a combination of both hash-based search techniques and linear search techniques than if hash-based search techniques or linear search techniques were used alone. Such techniques may be particularly useful for selecting entries from IPSec SADs.

For at least the reasons discussed above, Appellants respectfully submit that the rejection of Claims 1 - 13, 37, and 40 as directed to nonstatutory subject matter is clearly erroneous and, therefore, request that the rejection under 35 U.S.C. §101 be withdrawn.

Claims 1, 37, and 40 are Patentable

Independent Claims 1, 37, and 40 stand rejected under 35 U.S.C. §102(b) as being anticipated by Sharma. (Final Action, page 2). Independent Claim 1 is directed to a method of searching a database that recites, in part:

> ...
>
> generating a hash key value based on a plurality of selector values;
> selecting an entry in the database having an address corresponding to the hash key value, **wherein entries in the database include corresponding hash values**;
> evaluating the selected entry to determine if the entry in the database corresponds to the plurality of selector values;
> incrementing the address corresponding to the hash key value if the selected entry does not correspond to the plurality of selector values;
> wherein the selecting, the evaluating and the incrementing are repeated until the hash value included in selected entry has a value which indicates that entries subsequent to the selected entry will not correspond to the plurality of selector values. (Emphasis added).

Independent Claims 37 and 40 include similar recitations. Thus, according to the independent claims, a hash key value is generated based on a plurality of selector values. An entry is selected in a database that has an address corresponding to the hash key value. Moreover, the entries in the database include corresponding hash values.

The Final Action cites a passage at column 2, lines 63 - 67 of Sharma as disclosing these recitations of the present invention. (Office Action, pages 3 and 4). This passage from the Summary of the Invention section refers to reading the entries in table T1 212 in memory 116. According to independent Claims 1, 37, and 40, a database entry is selected that has an address corresponding to the hash key value. As is known to those skilled in the art, a hash key value is provided to a hash function and the output of the hash function is used to identify a location or address in a data structure where particular data or information are stored. Sharma discloses a hash function 210 that is applied to the unique values in the group columns GC 252 of the table T1 212 to generate an index for hash table 216. (Sharma, col. 8, lines 5 - 10). Thus, the information in table T1 212 is analogous to hash key values.

The output values or addresses from the hash function 210 of Sharma are stored in the hash table 216. These addresses in the hash table 216 identify the location of various entries in the group table 218. As highlighted above, however, independent Claim 1 recites "selecting an entry in the database having an address corresponding to the hash key value, **wherein entries in the database include corresponding hash values.**" Appellants acknowledge that the group table 218 is a database from which entries may be selected
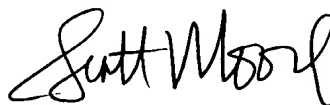
corresponding to a hash key value where the unique values in table T1 212 are interpreted as hash key values. Appellants submit, however, that unlike the recitations of independent Claims 1, 37, and 40, **the entries in the group table 218 do not include corresponding hash values**. As shown in FIG. 2, the group table 218 includes three columns corresponding to dname, sum_salary, and count. None of these columns corresponds to the hash value of an entry in the group table 218, e.g., sum_salary is not generated by hashing dname or vice versa. It appears that the group table 218 merely contains summarized/aggregated data based on the table T1 212, *see, e.g.*, Sharma, col. 6, line 56 - col. 7, line 16).

In response to these arguments, the Final Action cites passages at col. 5, lines 55 - 64 and col. 10, lines 23 - 39 of Sharma, which are quoted on pages 3 and 4, respectively, of the Final Action. The passage at col. 5, lines 55 - 64, however, merely states that various data structures, including the group table 218, are maintained in the primary memory 112. The passage at col. 10, lines 23 - 39 merely describes how to update the group table 218. Nowhere in either of these passages is there any description or suggestion that the group table 218 includes both entries and hash values of those entries in the same table. Moreover, if the Final Action is not citing group table 218 as disclosing the database entries recited in independent Claims 1, 37, and 40, then Appellants submit that none of the other tables disclosed in Sharma include entries and corresponding hash values for those entries in the same table. Appellants wish to point out that independent Claims 1, 37, and 40 recite that the database **entry** includes a corresponding hash value. Thus, if the Final Action is rejecting the pending independent claims under the theory that the database server 102 includes memory where database entries and hash values associated therewith are stored across various tables/data structures, then this is insufficient because independent Claims 1, 37, and 40 require a database entry to include the hash value of the entry data as part of the entry.

Appellants respectfully request that the present application be reviewed and the rejection of independent Claims 1, 37, and 40 be reversed by the appeal conference prior to the filing of an appeal brief for at least the reasons set forth above.

Customer Number 20792
Myers Bigel Sibley &
Sajovec, P.A.
P.O. Box 37428
Raleigh, NC 27627
919-854-1400
919-854-1401 (Fax)

Respectfully submitted,

D. Scott Moore
Reg. No. 42,011